1475 b 26

ESSAYS

FOR THE

Month of JANUARY, 1717.

To be Continued

MONTHLY.

By a Society of GENTLEMEN.

For the Universal Benefit of the

PEOPLE of *ENGLAND.*

LONDON,

Printed for E. BERINGTON at the *Cross-Keys*, near *Essex-street* End in the *Strand*, MDCCXVII.

BRITISH MUSEUM
27
37
JAN

PREFACE.

IT *will be neceſſary to ſay a Word or two concerning an Omiſſion in Point of Time*; Number (1.) *of theſe* Eſſays *having been publiſh'd ever ſince* December *laſt, at which Time we promis'd, that they ſhould be printed* Monthly, *notwithſtanding which the ſecond Book comes out but now.*

Some Steps, which have occaſion'd this Delay, were taken by the Gentlemen of the Society, in order to make Trial of new Methods for a more effectual Publication, and Diſperſion of their Writings: Their Endeavours have been various, and ſo was their Succeſs; but having come, at laſt, to a Determination on that

Head, the Books will for the future come abroad more punctually.

Tho' we plainly perceive, that Length of Time alone can ſpread our Eſſays *wide enough, to prove a General Benefit, 'tis hop'd in the mean While, that Men of Taſte will give the due Encouragement to a Deſign ſo uſeful, and promote it, as Occaſion offers, by their Influence and Recommendation.*

ESSAY

ESSAY V.

IT is a common Error in Men well affected to *Publick Deſigns*, that they ſatisfy themſelves with *hinting*, or diſcourſing *generally* on the Advantages to be produc'd from the Improvements they are recommending. They find themſelves ſo juſtly fir'd with a Proſpect *in Great* of the Benefits they urge, that they forget, or think it *needleſs* to be *tedious*, or *particular*, in pointing out the *Means*, as well as the *End*; whereas they ſhou'd, if they wou'd argue with Succeſs, demonſtrate, that a Profit *perſonal*, and *ſpeedy*, may be reap'd, as well as *general*, and *future*.

For while they ſoar a Flight, too high for common Taſts, they are look'd upon as *ſpeculative* and *fantaſtical*, and miſs their Aim, by *ſetting out to View* the *graveſt*, or moſt *laſting* Colours of their Subject, when they ſhou'd remember, that the *Gaudieſt* ſooner *catch the Eye*, tho', in Reality, *leſs valuable*.

Men,

Men, in these latter Ages, satisfy themselves with their *own* Welfare; they afford but cold Attention to the Benefits they *share not*; and were it not, that they have better learnt to *veil Imperfections* with *wellbred Hypocrisy*, in their meer natural Conceptions, and true Bent of Genius, they differ little from the blunt *Vizier*, of famous Memory among the *Turks*; who, when the *French Ambassador* had entertain'd him with a long Discourse about a *Victory*, his Countrymen had won against the *Spaniards*, answer'd with the bare-fac'd Sincerity of Contempt ------- *What signifies it to our Interest, whether the Hog worries the Dog, or the Dog the Hog, since neither of the Beasts can give any Disturbance to the Peace of my Master.*

It is a Truth but too visible among us, that those Arguments have always the least *Force*, which require us without *present Profit*, to take Pains for securing the *future Prosperity*, even of our Children. ------- 'Tis above ten to one, that the *Alderman* of *Doncaster* had the Repute of a *cunning shrewd Man* in his Way, who, when an Engineer, employ'd in some Work, not approv'd by the Town, was urging, that they shou'd lay aside the Prejudice, with which they oppos'd him, and consider his Attempt, as what might be a lasting Benefit to their *Posterity*. ----- *Ay, ay*, says he, *that Argument is old and threadbare; we are always dinn'd in the Ear to do something for* Posterity, *but I wou'd be glad to see* Posterity *do something for us first.*

Out of numerous Instances, which lie fairly before us, we make Choice of the *Silk Manufacture*,

facture, to bring *Home* this Prologue to the Purpoſe we ſtrike at.

There is no Man will ſcruple to own, that, were *This Manufacture* as much *Ours*, as the *Woollen*, 'twere a noble *Improvement* of our *National* Wealth: But, being made always to look *Up-Hill* to the Proſpect, we feel our Eyes ake at the Height, and the Diſtance, and, concluding that *A great Deal muſt be done*, before we can reach it, we ſit down at once to the *other Extreme*, and *do Nothing at all*, for Fear of *Miſcarrying*.

In direct Oppoſition to the Fault, we complain of, we ſhall make it *our Task* to demonſtrate, that, if ever we hope for a *general* Share in this gainful *Manufacture*, it muſt be *begun* by *Particulars*: And *that it may ſo be begun*, we ſhall propoſe it as a *Pleaſure*, inſtead of a *Work*, and bid fair for tempting the Ladies *ſoft* Fingers to *wind* this wiſh'd Benefit into the Nation.

That the *Silk-Worm* will *live in our Climate*, and yield *us* its Product as well as our Neighbours the *French*, (not to ſay the *Italians*) is a Truth ſo well known, and ſo frequently *experienc'd*, by the Attempts of *Curioſity*, that to endeavour a *Proof*, were to *fight* with a *Shadow*: The *Fair*, the moſt *Powerful* Party, will be all on our Side, and do Juſtice to the Induſtry of This *buſy* little Animal, to whoſe conſtant Labours they are ſo highly *oblig'd*, that the leaſt they can do, in *meer Gratitude*, is to form an *Alliance* and take their neglected, poor Servant into their *Protection*. The

The moſt, that can be ſaid, in Behalf of the *Unwilling*, is that This uſeful Inſect is *nice* in its *Diet*; that it wou'd, willingly, feed upon no other *Leaves*, but thoſe of the *Mulberry*; a Tree, not in Plenty enough, here in *England*, to ſupply the Demand, they wou'd ſuddenly occaſion, and of too *tedious Growth* to be planted *on Purpoſe*, with any reaſonable Hope of enjoying its Benefit.

It is true, that the *natural* Food of theſe Worms is the *Mulberry Leaf*; Each different Inſect is obſerv'd to affect its particular Vegetable; and the *Silk-Worm* does certainly thrive *beſt* on the *Mulberry*, tho' *other Leaves* have been try'd, not without ſome *Succeſs*, and particularly *Lettice*.

But 'tis eaſy to furniſh at once, whatever Quantity can poſſibly be wanted of the *Leaf*, moſt proper for the Buſineſs, and that by a yearly, and regular Crop, from the firſt Year onward, or in leſs Time, and with much leſs Expence, than they reap Wheat, or Barley. The Method is *eaſy*, and *plain*, as has often been practis'd in *Europe*, tho' it was brought us from *China*.

'Tis no more than *This*. When Mulberries are ripe, they bruiſe them with their Hands, and waſhing off the Pulp, which ſticks cloſe to the Seeds, ſo abounding in that Berry, they dry away the Water from the Seed, and either in *Autumn*, or waiting till *Spring*, they ſow it in *Rills*, or ſmall *Trenches*, which they make with

a *Hoe*, as our Gardiners ſow *Peaſe*, and in two or three Months they will ſhoot up a thick twiggy Foreſt, about a Foot high, and abounding with Leaves, far more ſmooth, ſweet, and tender, and fitter for the *Silk-Worm* than thoſe, which are gather'd from old, *full-grown* Mulberry Trees.

Theſe ſmall Twigs they *mow*, as you ſee in the Cut, or reap down with a Sickle, and ſtripping off the Leaves for the Food of their Worms, before they have got to the Extent of their Ground-Plot, the Place they *begun at* is *furniſh'd again* with a new Shoot, as fine as the former; and ſo the ſame Roots will continue for ever to *ſhoot out* ſmall Twigs, which are thick ſet with Leaves, above fourteen Days earlier in the Spring, than they can be gather'd from the Trees in our Gardens.

Thus, the only Objection, which cou'd fairly be made, is remov'd beyond Argument; and the Ladies, who are willing to employ their *ſpare Hours* in ſo pleaſing an Amuſement, will no longer be liable to the Trouble and Charge of procuring their *Leaves* at extravagant Rates from the *Gardiners*; ſince whether in *London*, or the *Country*, their *Gardens*, if they have any, tho' never ſo ſmall, will furniſh them for as many of the Worms, as will yearly give Silk enough to *cloath* their *Benefactors*.

By this Means the *Benefit* will ſpread with the *Practice*, when ſome *one* has begun, and makes viſible *Profit*, not to ſpeak of the *Pleaſure*: When ſome Lady temptingly dreſs'd at

a Viſit, and ſhining in the Ornaments of her own private Induſtry, ſhall be able to anſwer to the Commenders of her *Gown*, or her *Petticoat* ----- *'Tis the Silk, which my own pretty Spinners have preſented me:* Then firſt will *Emulation*, or *Envy* produce *Imitation*; *More* every Year will fall into the Practice, and the Example, inſenſibly ſpreading, will at laſt, become *General*, till ſome happy *Charmer* will be made Immortal by *Fame*, and be admir'd in our Hiſtories, as the *firſt Introducer of the Silk Manufacture in* England.

There is Nothing more eaſy in the Practiſe, than the Breeding and Feeding of Silk-Worms. A large airy Room, like that, which you ſee in the Cut, muſt be divided into ſeveral long Rows of Shelves, one over the other, like a Library; Theſe Shelves muſt be made very ſmooth, and well planed; and pretty forward in *May*, theſe little *Eggs*, which you *buy* by the Ounce, and which may be had in what Quantity you pleaſe, from *France*, *Spain*, or *Italy*, muſt be laid on theſe Shelves, where the natural Heat of the Seaſon (tho' the Uſe of a *Stove* may, ſometimes, do better) will diſcloſe the ſmall Inſects in the Shape of a *Caterpillar*.

The Perſons, appointed to feed them, have Nothing to do but to cover one Side of each Shelf, every Day, with very *dry* Mulberry Leaves; for Nothing is ſo hurtful to the Nature of this Animal, as Moiſture; Attracted by the Scent of the *freſh Leaves*, they readily crawl from their *old ones*; By which Means, that Side of the Shelf, which they lay on *before*, may be

brush'd

bruſh'd down, and clean'd from the *Dung*, and the Refuſe of Mulberry Leaves; and made ready to receive back the Worms the next Day, with a freſh Change of Leaves to attract them.

The Time of their *Feeding*, from the firſt to the laſt, is *Eight*, or *Nine Weeks*, during which they will often be *ſick*, and eat Nothing for ſome Days together; You will know when they are ready to *ſpin*, by their looking quite *clear*, and *tranſparent*, of a beautiful *Colour*, like *Amber*; You muſt then ſtick ſome ſmall *Twigs* of *Roſemary*, or *Lavender*, upright in little Holes, along a large *Ridge*, that muſt divide all your Shelves in the *Middle*.

By the Stems of theſe Twigs all ſuch Worms, as are ripe for the Work, will creep up to the Branches, among which they will prettily faſten themſelves; And in two or three Days make their *Cobwebs*, or Bottoms, ſpinning buſily round, till at laſt they quite *hide* themſelves, and *finiſh* their Labour *within*. After which, if they were not prevented by laying all Bottoms but thoſe, they wou'd ſave for the *Breed*, in an *Oven* made moderately hot, they wou'd *eat* their Way out again in fourteen Days Time, and damage the Silk, they have been making.

But from the Bottoms, you keep for Encreaſe of your Eggs, the Inſect, which *went* in a *Caterpillar*, or *Worm*, will *come out* in a Shape very different, repreſenting a Kind of *Butter-Fly*; In which new-aſſum'd Form they are *amorouſly* inclin'd, and after paying their mutual Reſpects, having no further Buſineſs to do, they preſent-

ly *die*, one after another; The *Female* having firſt left Proviſion for a numerous *Succeſſion*, by a Quantity of *Eggs*, which will ſurprize new Beginners.

For *Winding off* the *Silk* from the *Bottoms*, a *peculiar Wheel* muſt be us'd, which may be got from the Places, which furniſh the *Eggs*. It is generally obſerv'd in the Countries, where the *Silk Manufacture* is practis'd, that for every *Ounce* of the *Eggs* they have *Worms*, which will eat above *Two Hundred and Fifty Pound Weight of Leaves*, and yield, in Return, at leaſt *Ten Pound of Silk*.

The *Management* of this Buſineſs of *Silk-making* ſeems as naturally deſign'd for the Hands of the *Fair*, as the *Manufacture* it ſelf for their *Ornament*; for ſo nice, tho' a *Worm*, is the proud little *Spinſter*, that it ſuffers no Handling with uncleanly Fingers, nor is able to bear the ſtrong Scents of *Garlick*, *Tobacco* and ſuch like; ſo that it would ſeem, by a *natural Inſtinct*, to *delight in* the Attendance of *that Sex only*, for whoſe Service it labours.

We cannot forbear to indulge ſome faint Hopes, that the *Silk Trade* will *hereafter* be eſtabliſh'd in *England*; And the rather, ſince it travell'd but ſlowly from its firſt Seat, the *Eaſt*, into any of the Countries, now *moſt famous* for its *Product*. About *Twelve Hundred Years ago* it was brought out of *Perſia* to *Conſtantinople*, by the Curioſity of a *Monk*, who preſented ſome *Silk Worms* to the Emperor *Juſtinian*; By whoſe publick Encouragement it became a *Manufacture* with

with the *Grecians*; from thence, after Eight Hundred Years unrival'd Poſſeſſion, it crept into *Italy*; The *Italians* kept the Benefit within their own Bounds, till a Hundred Years ſince, or conſiderably leſs, when the Spirit, and Induſtry of a Miniſter of State drew it over the *Alps* into *France*; And from thence it is likely (if our Hatred to Improvements diſcourage it not) to ſtep *next* croſs the Channel, and viſit *Old England*.

It falls in our Way, without much Digreſſion, having lately been ſpeaking of an eaſy, and ſpeedier Cultivation of the *Mulberry* than is yet put in *Practice*, to make an Enquiry concerning a *Grain*, which has never been courted to a Reſidence amongſt us, tho' it ſeems *not averſe* to our Climate, and would bring us no contemptible Benefit.

The Grain, we here ſpeak of, is *Rice*, which we know, by Experience, does actually thrive in this Nation, and *that* a Goodway to the *Northward* of *London*.

But the *Soil* it is *ſow'd on*, and the *Manner* of *Sowing*, differ widely from any Thing *common* to the *Practice* of our Countrymen, ſince, in thoſe Parts of the *Indies*, where the beſt Sort abounds, they draw artificial *Chanels* of *Water*, to cover their Rice-Lands, a Foot, or two deep, and when, by the *Trampling* of *Oxen*, or other Contrivances, they have *broke up* the Surface, they ſcatter the Rice upon the Water, thro' which, ſinking into the Mud, it takes Root, and ſhoots upward, till, having attain'd a conſiderable Growth, they drain off the Water, as no longer neceſſary. We

We know that the *Engliſh* in *Carolina* produce excellent Rice on their moiſt Meadow Lands, *without* the Aſſiſtance of *Water*; but the natural Vigour, and unbroken *Strength* of their *Soil* is too obvious a Truth in their Favour, to admit of *Compariſon*, or ſerve, as a *Precedent* for us here in *England*.

Since then the Aſſiſtance of *Water* is ſo uſeful, and neceſſary for enriching and moiſtning the *Rice Lands Abroad*; It ſhou'd ſeem, we are *naturally* furniſh'd at Home with a *Jewel*, which, for Want of due Skill, we neglect for a *Barly Corn*, as the *Cock* did in *Æſop*; and thoſe vaſt Tracts of *Fen Land* in *Lincolnſhire*, *Huntington*, *Cambridgeſhire*, and many other Counties, are capable of an excellent Uſe, by the Means of *that very Water*, which covers them Yearly, nine Months in twelve; and which to *drain*, and *keep off*, which is the preſent Endeavour, creates a Charge, that exceedingly leſſens their Value to their Owners.

Thus is *Nature* continually working for the Benefit of *Man*, and *that* in the *Plaineſt*, and moſt *Open Manner*, while we ſeek her in vain, by *looking too high*, and believing that Nothing can be *worth our unfolding*, which is not *wrapt in a Myſtery*.

There's a pretty Story, we have ſomewhere met with of a ſilly Woman in the Country, whoſe *whole Eſtate* was a ſmall Slip of Land, with an *Aſh* or two in the *Hedge-row*. The Ground had been formerly *taken in* from a

Foreſt

Foreſt by her Husband, but the Woman being now become a Widow, and miſerably *Poor*, no Notice was taken of the Encroachment; and ſhe was ſuffer'd to get a hard Livelihood, by turning it into a *Flower Garden*, or ſupplying the Neighbourhood with *Noſegays*.

But it happen'd one Year, that a ſtrong Autumnal Wind blew the *Aſhen-Keys* all about her little Garden, ſo that in the Spring following, She found it metamorphis'd into a hopeful *Plantation* of *Aſhes*, with the Plants above Ground, as green as a Leek. The Woman, at firſt, was half driven to *Deſpair*, but reſolv'd by Degrees, She wou'd cheriſh her new Progeny, which *She did*, and beginning with ſuch a promiſing Nurſery, met Encouragemant enough to *enlarge it* as faſt as She cou'd, till becoming the moſt celebrated *Planter* in the County, She ſold *Setts* far and near, and obtain'd ſo conſiderable a Fortune, as to ſee ſeven Children married, in her Life Time, into ſeven the beſt Families of her Neighbourhood.

Such Accidents as theſe, however *inconſiderable* they may be thought in *Themſelves*, ſhou'd be carefully remember'd, and ſpread abroad, for the Sake of their *Conſequences*. They ſerve to *awaken* very *different Hopes*, and have often been known, by inſpiring a ſudden and vigorous Induſtry, to promote moſt Succeſſes, in Variety of Circumſtances.

With this View it will be no unwelcome Entertainment to produce a more conſiderable Example, in a Story, which is well remem-

ber'd

ber'd in thoſe Parts of *Gloceſterſhire*, which border upon *Severn*.

Captain *James Stanly*, who had been an Officer in the King's Army during the Civil Wars, which began in the Year *Forty One*, and had loſt by the *Sequeſtration* ſucceeding them, the largeſt Part of his Eſtate, retir'd, to ſpend the Remnant of his Days in one of his *Farms*, which he had found Means to preſerve in the Name of a Relation, of the *contrary Party*, and which was ſeated in that Part of *Gloceſterſhire* abovemention'd.

He ſurviv'd but a little the Ruins of his Cauſe, and dying in his Retirement, left his Wife, a young Widow, with *That Farm* for her *Jointure*, whoſe Rent, when *laſt Lett*, had been about *Five Hundred Pound per Annum*: She had a Son under Nine Years of Age, whom ſhe took from a School he was ſent to in the Life-Time of his Father, and kept him at Home, as a Means to divert, or alleviate her Sorrow.

Robert Stanly, this Son, diſcover'd a Genius, much bent to a Love of the Country; He wou'd often Delight to be preſent at the *Plowings*, the *Thraſhings*, and ſuch other Buſineſs of the Servants, and was every Year diligent in picking up the *Acrons*, as they fell from ſome Trees, which grew about his Mother's Houſe, which Acorns he wou'd be *whole Days* employing himſelf in making Holes for, and Planting up and down in the *Banks* of the *Hedge-rows*, or Encloſure.

The

The Mother, however, was advis'd, when her Son reach'd *Fifteen*, to ſend him to *London*, where the *Law* was believ'd the moſt hopeful Employment he cou'd follow. He was therefore recommended to the Care of an *Attorney*, with whom he liv'd ſeveral Years; and afterwards, ſetting up for himſelf, *miſcarried* in the Buſineſs, and either thro' Fear of his *Mother's Diſpleaſure*, or the Weight of ſome *Debts* he had contracted, procur'd Recommendations for ſome ſmall Preferment *abroad*, and went over to *Jamaica*, which was then newly ſettled by the *Engliſh*.

In *Jamaica*, from a very *narrow* Beginning, he obtain'd by the Succeſs of his Induſtry, a conſiderable *Plantation*, and liv'd in that Iſland almoſt *Twenty Years*: At the End of which Time, he grew deſirous to viſit *England* again, and there ſettle near his Mother, who was ſtill alive and impatient to ſee him.

In Purſuit of this View, he ſold his Plantation, and freighting a Ship with his Effects, put *himſelf* and his *Family* on *board* Her, and ſet ſail for *Briſtol*; to which he was ſo near, as the Iſland of *Scilly*, by the *Land's End* off *Cornwall*, when the Ship by a Storm in the Night, unfortunately ſplit upon a Rock, where nothing at all of her *Cargo* was ſav'd; and with very much Difficulty ſome *few* of the *Paſſengers*, among whom was *Mr. Stanly himſelf*, thus reſtor'd to his Country in a Condition more naked, and miſerable than he left it.

He found Means, however, to get ſoon to his Mother, who receiv'd him with that Mixture of *Sorrow* and *Joy*, which was Natural to the Occaſion; and when the firſt Emotions were over, and her Paſſions grew calm enough, to hear him, *at large*, give Account of his Shipwreck, and the Particulars of his Loſs by it, ſhe anſwer'd him with a Sigh——That ſhe had *fear'd* ſome Misfortune wou'd befall him, whereever he was, becauſe a few Days before, an unuſual *High Wind* had blown down above a Hundred of *thoſe Oaks*, which ſhe had cheriſh'd for *his Sake*, and which he might remember, when a Boy, he had planted from the *Acorn*, all about the Eſtate, but ſhe thank'd God, there were many yet left ſtanding, which ſhe hop'd was a *Good Omen*, that he wou'd *overcome his Misfortunes*.

A Good Omen indeed, cry'd *Mr. Stanly*, if, in nigh Thirty Years Growth they are ſo *large*, as I wiſh them; for but a Day or two ago, in the City of *Briſtol*, I met with a Perſon, who was purpoſely employ'd, and is making Enquiry, with a great Deal of Earneſtneſs, after ſound, young, *Oak Timber*, a great Parcel of which Sort he is Commiſſion'd to *purchaſe*.

The End of the Story is, that upon Examination, they found above *Seventeen Hundred* ſuch Oakes, as they ſold for *Forty Shillings apeice*, with which Stock *Mr. Stanly* began a new Trade, and became as conſiderable a Merchant, as any in the *Weſt*; and in Memory of this fortunate Accident, he preſerv'd from the *Axe*, about Twenty

Twenty of the Trees, which grew neareſt the Houſe, which Trees (tho' the Eſtate is now fallen to another Family) are known to this Day, by the Name of *Save all Remnant.*

This Example of a Gentleman preſerv'd from ſuch Ruin, in the *Middle* of his *Life*, by the *innocent* and unmeaning *Diverſion* of his *Childhood*, together with what is told us by the famous *Sir Richard Weſton*, of a Merchant of his Acquaintance, who planted with his own Hands ſo much Wood, that he ſold it in his Life Time, for *Fifty Thouſand Pounds Sterling*: Theſe Examples, we ſay, are ſufficient to excite a new Vigour in our *Country Gentlemen*, who might eaſily *improve* upon the *Hint* ſo far, as to eaſe their Eſtates of a Burthen, which often *Oppreſſes*, and ſometimes *Deſtroys* them.

We mean, where a Gentlemen leaves many *Daughters*, for whoſe *Fortunes* the *Eſtate* is the *Fund*, and ſtands *mortgag'd* to provide them.

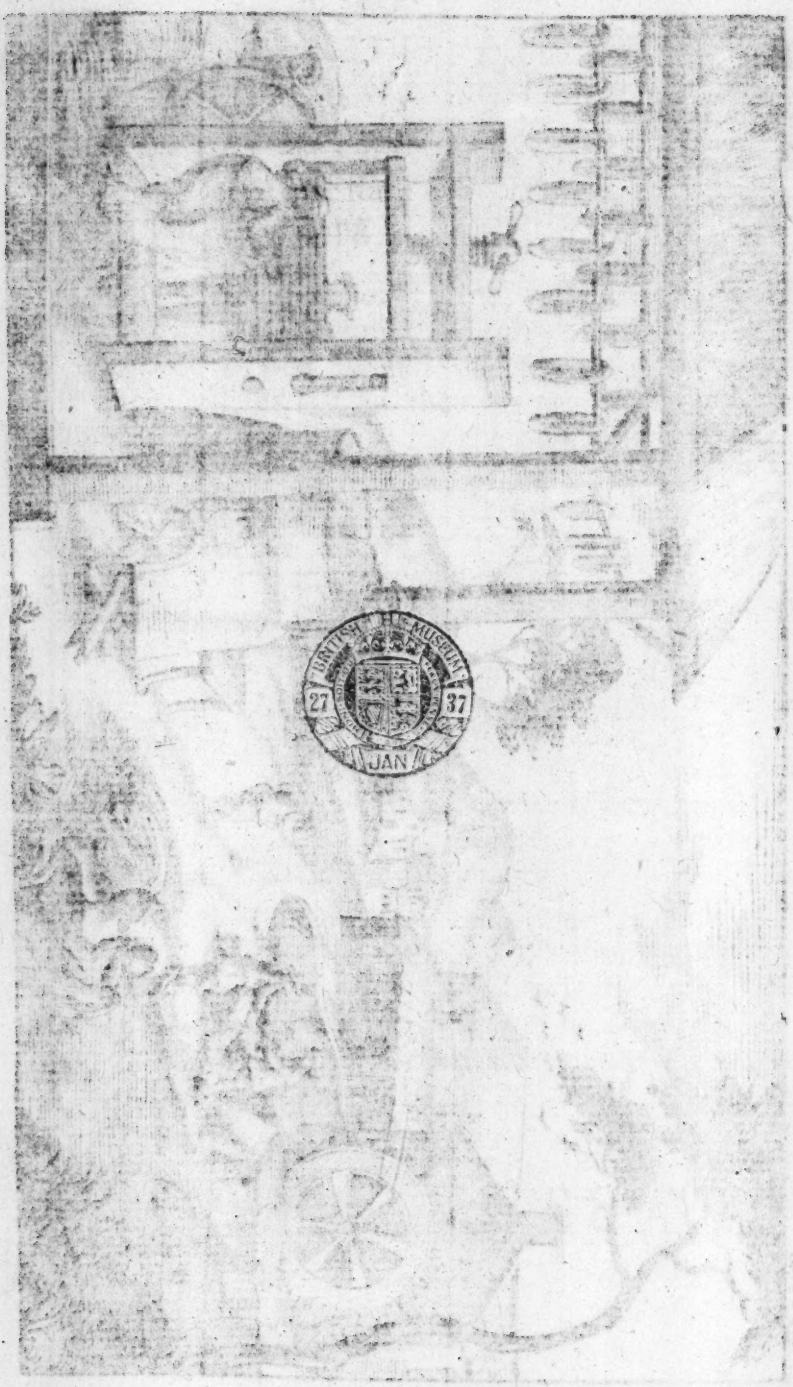
How eaſily were this Inconvenience prevented, if at the Birth of a Daughter, but *Ten Acres* of Land were *ſet out* from the Eſtate, and after being carefully *enclos'd*, were well *planted* with *Timber Trees?*

Suppoſe, for Example, they were *Firr-Trees*, which are found to *thrive readily* in all Parts of *England*: Four Thouſand ſuch Trees wou'd grow *Twenty Years* together on ten Acres of Land, without *Galling* each other; at the End of which Term they wou'd, one with another, be worth *Twenty Shillings apiece* for ſmall *Maſts* for *Veſſels*,

and many other good Uſes; ſo that here were (almoſt without Loſs, or Expence) a *Fortune* of four *Thouſand Pounds* provided for the young Lady, by that time ſhe grows marriageable, and her Father's Eſtate not charg'd with a Penny towards raiſing it.

The ſame Thing being done, only changing the *Kind* of Tree, planted at *every new Birth* of a *Daughter*, or *Son*, wou'd effectually provide for them all, as faſt as they grow up, like a *Plough*, kept at work for their Beneſit, even while they were *ſleeping*: There is, we may hope, *no Elder Brother* in *England*, who will diſlike *this particular Part* of this Eſſay, whatever his Opinion may be of the *other*.

ESSAY


BRITISH MUSEUM
27
37
JAN

ESSAY VI.

WE deſign in this Eſſay to treat of a Way to *make Paper*, without the Aſſiſtance of *Rags*, not only much *cheaper* than any, which is now made in *England*, but infinitely *better*, and *whiter* than what is brought us from *beyond Sea*.

But we ſhall ſtop by the Way, to ſay a Word or two to ſuch Readers, as not being converſant with Matters of this Nature, may imagine, that theſe are *Subjects*, they can reap no Advantage from.

Tho' our Eſſays will abound with Variety of very different Entertainments, ſome of which may, poſſibly, be more to the Taſte of Men, who have *Nothing to do but be pleas'd*, yet even *ſuch* Sort of Readers may alſo meet *Diverſion*, and *Profit*, by inſtructing themſelves in Things of this Kind; for they afford, together with

with an *Encreaſe* of our *Knowledge*, a very conſiderable *Improvement* of our *Pleaſures*.

And indeed it is Pity, that a great many People, whoſe Time hangs ſo heavy on their Hands for Want of new *Paſtimes*, are not put in the Way of SEEING SHOWS, which no Body thinks of, tho' they paſs by a Thouſand, whenever they go to ſee *Bedlam*, the *Monument*, the *Lions*, *Tombs*, *Wax-work*, and the reſt of their *Holiday Amuſements*.

The *Shows* we here mean, are the *Handy-craft Trades* and *Manufactures* of *London*, whoſe extenſive Ingenuity, and Variety of Fancy, and Contrivance, 'tis impoſſible for any Man to gueſs at, who has not nicely obſerv'd them.

If the Ladies, for Example, wou'd take an Opportunity to viſit the *Silk-Weavers Looms*, and ſee there that moſt admirable *Engine*, and the Dexterity with which it is *manag'd*, for the making thoſe fine-fancied Ornaments in their *Velvets*, *Brocades*, and other rich Stuffs, which they daily put on, without weighing the *Art of*, they wou'd certainly give themſelves a Pleaſure, we had almoſt ſaid, equal to the *wearing* them.

In the *Wire-drawers Trade*, it is eaſy to believe, that it muſt be no trifling Entertainment, to ſee a round Piece of *Silver*, cover'd only on the *Outſide* with *Gilding*, drawn out by the Turning of a Wheel, into many hundred Yards of *Gold Wire*, till 'tis brought to ſuch exquiſite *Fineneſs*, as we ſee it appear in, when it covers *Silk Threads* in *Gold Laces*.

What

What Sight can afford more agreeable Amuſement to Men, who are Strangers to the Practice, than what they may every Day ſee in our *Glaſs-Houſes*? where *Aſhes*, and *Sand* are by Force of the *Fire*, firſt reduc'd to a Liquid, and melted like *Metals*: Then *moulded*, like *Wax*, and *blown up* with Mens Breath, like a Bladder; *cut out* into what Shapes they pleaſe, like a Piece of Cloth, with the *Shears*, and brought to a *Chriſtalline Clearneſs* and *Beauty*, as different from the Matter, which *produc'd* it, as is poſſible to imagine two the moſt noted Contraries.

We are confident that the Good Womens *Satisfaction* wou'd overcome their *Reſentment*, if we cou'd, by ſome Means, or other, lay ſo powerful a *Spell*, on all the *noted Houſewives* of this City, that none of them ſhould be able to *ſet a Stitch without Pricking their Fingers*, till they had been to ſee, and cou'd readily deſcribe the *Way of making* the *Needles*, they work with.

Many Gentlemen, who uſe ſweet *Powder* in their *Perriwigs*, wou'd be at a Loſs to tell any Body *what* That *Powder* is *made of*: And might perhaps be not a little ſtartled to hear, that 'tis the Product of *Wheat Bran*, which yet they may at any Time convince themſelves of, by making a *Trip* to the *Starch-Works*.

And to bring back our Pen to the Subject in Hand; There is no Body, who lives near a *Paper-Mill*, without *looking into it*, but loſes a very

with an *Encreaſe* of our *Knowledge*, a very conſiderable *Improvement* of our *Pleaſures*.

And indeed it is Pity, that a great many People, whoſe Time hangs ſo heavy on their Hands for Want of new *Paſtimes*, are not put in the Way of SEEING SHOWS, which no Body thinks of, tho' they paſs by a Thouſand, whenever they go to ſee *Bedlam*, the *Monument*, the *Lions*, *Tombs*, *Wax-work*, and the reſt of their *Holiday Amuſements*.

The *Shows* we here mean, are the *Handy-craft Trades* and *Manufactures* of *London*, whoſe extenſive Ingenuity, and Variety of Fancy, and Contrivance, 'tis impoſſible for any Man to gueſs at, who has not nicely obſerv'd them.

If the Ladies, for Example, wou'd take an Opportunity to viſit the *Silk-Weavers Looms*, and ſee there that moſt admirable *Engine*, and the Dexterity with which it is *manag'd*, for the making thoſe fine-fancied Ornaments in their *Velvets*, *Brocades*, and other rich Stuffs, which they daily put on, without weighing the *Art of*, they wou'd certainly give themſelves a Pleaſure, we had almoſt ſaid, equal to the *wearing* them.

In the *Wire-drawers Trade*, it is eaſy to believe, that it muſt be no trifling Entertainment, to ſee a round Piece of *Silver*, cover'd only on the *Outſide* with *Gilding*, drawn out by the Turning of a Wheel, into many hundred Yards of *Gold Wire*, till 'tis brought to ſuch exquiſite *Fineneſs*, as we ſee it appear in, when it covers *Silk Threads* in *Gold Laces*.

What

What Sight can afford more agreeable Amuſement to Men, who are Strangers to the Practice, than what they may every Day ſee in our *Glaſs-Houſes*? where *Aſhes*, and *Sand* are by Force of the *Fire*, firſt reduc'd to a Liquid, and melted like *Metals*: Then *moulded*, like *Wax*, and *blown up* with Mens Breath, like a Bladder; *cut out* into what Shapes they pleaſe, like a Piece of Cloth, with the *Shears*, and brought to a *Chriſtalline Clearneſs* and *Beauty*, as different from the Matter, which *produc'd* it, as is poſſible to imagine two the moſt noted Contraries.

We are confident that the Good Womens *Satisfaction* wou'd overcome their *Reſentment*, if we cou'd, by ſome Means, or other, lay ſo powerful a *Spell*, on all the *noted Houſewives* of this City, that none of them ſhould be able to *ſet a Stitch without Pricking their Fingers*, till they had been to ſee, and cou'd readily deſcribe the *Way of making* the *Needles*, they work with.

Many Gentlemen, who uſe ſweet *Powder* in their *Perriwigs*, wou'd be at a Loſs to tell any Body *what* That *Powder* is *made of*: And might perhaps be not a little ſtartled to hear, that 'tis the Product of *Wheat Bran*, which yet they may at any Time convince themſelves of, by making a *Trip* to the *Starch-Works*.

And to bring back our Pen to the Subject in Hand; There is no Body, who lives near a *Paper-Mill*, without *looking into it*, but loſes a very

very great Pleaſure, which wou'd ariſe from his ſeeing the ſeveral *Steps*, by which old, worn, Rags of *Linen* are brought to a Figure, and Subſtance, ſo *different*, as *Paper*.

The Making of Paper, eſpecially the fine *Writing* Sort, is a Manufacture ſo uſeful, and ſo lately brought into this Kingdom, where, even yet, they ſcarce reach any tolerable Perfection in the Work, that we hope a few Hints for improving it will be generally welcome.

It will be needleſs to deſcribe the particular Arts of Mill-Work, whereby the old Rags, being torn, and reduc'd to a Pulp, and moiſten'd, and whitened by the Aſſiſtance of Water, are afterwards form'd into Sheets, and thoſe Sheets into Quires of Paper; but it were not amiſs to remark an Opportunity, every where loſt to the *Engliſh* on their Navigable *Rivers*, and the *Thames* in particular, which is one of the moſt convenient Streams in the World for the Practice, which conſiſts in erecting all Sorts of Mills in large flat-bottom'd Boats, like our Weſt-Country Barges, and fixing them at Anchor in the Strength of the Current, which turning, (as well with the Flux, as the Reflux of the Tide) ſtrong underſhot Wheels, for that Purpoſe faſten'd on each Side the Boat to both Ends of a moveable Axis, the Mill by that Means receives its due Motion, and at no other Charge they continue to work Night and Day without ceaſing; Great Numbers of Mills for all Kinds of Work are made in this Manner, and every where to be met with on the Rivers of *Germany*, and particularly the *Elbe*, and the *Danube*.

But

But to reſume our Diſcourſe on the Paper Manufacture, Two general Objections bear Weight here in *England*, againſt its Improvement: The firſt is, that this Manufacture, depending on the *Linen*, which is not eſtabliſh'd amongſt us, it is impoſſible at reaſonable Rates to be furniſh'd with the requiſite Quantities of fine Holland Rags for Supply of the Work: And the ſecond Objection ariſes from the very great Labour, and Difficulty, which it wou'd require to make common courſe Linen Rags (which may be had in more Plenty) either *fine* enough, or *white* enough for the beſt Writing Paper.

We ſhall offer a Method, which duly obſerv'd, will not fail to deſtroy all the Force of both theſe Objections, and teach how from *Hemp* only, without ever Spinning, or Weaving it into Linen, to make any Quantities of the fineſt, and beſt Writing Paper in the Univerſe.

In the firſt Place the *Hemp* muſt be heckled, and dreſs'd to a Fineneſs, exceeding, if poſſible, ſuch *Flax*, as the beſt Thread is made of: And becauſe, by the ordinary Way of Hemp-dreſſing, this Work wou'd require almoſt infinite Labour, we have given you in the Cut, which belongs to this Eſſay, the Figure of an Engine, which will take off both the Charge, and the Trouble, and ſuddenly ſoften the ſtubborneſt Hemp, and reduce it to what Size of Fineneſs is requir'd by the Workman.

The Force of this Engine conſiſts in two ſtrong wooden Rollers, about ſix Inches Diame-

ter, and three Foot in Length, faſten'd into a Frame. To the End of the undermoſt Roll, ſtanding out from the Frame, ſhou'd be faſtned a Wheel with a Handle, which turning that Roller *about*, it's Teeth move the uppermoſt alſo; and this turning by an oppoſite Motion, and being preſs'd to what Cloſeneſs you pleaſe by the Screw in the Top, which forces down a tough wooden Spring, depreſſes the uppermoſt Roller, they cruſh by their Motion the Hemp Stalks, which being put in on one Side, are drawn thro' between the two Rolls on the other. The Spills, or Hemp-Hurds will be broke, and fall off; the firſt Time the Stalks paſs the Rollers, and the ſame Stalks, being often drawn backward and forward, the *Hemp*, in a ſhort Time, grows ſofter, and finer, than by many long Beatings, and Hecklings, not to mention the Waſte, unavoidably made in that ſlow, common Method.

When by this Means your Hemp is become a courſe, threddy Subſtance, ſuch as were capable of being ſpun, it ſhou'd be ty'd into Knots, pretty looſe, and thrown into a Cauldron of very ſtrong Lye, made of Oak, or Elm Aſhes, and Quick-Lime, and drawn off very clear by long ſtanding: Boil it ſtrongly in this Lye for two Hours together, then take it out, and hang it to dry. Being dry, it muſt be rinc'd, and well waſh'd a good while together, in clear running Water, then wrung out and dry'd as before; when all this is done, let it again be drawn thro' the Rollers, preſs'd as cloſe, as is poſſible, where continue to work it at your Diſcretion; then boil it in the Lye, as before, hang

it once more to dry, then rince, wring and dry it again. Repeat the whole Proceſs the third Time, and you will find your Hemp brought to the Fineneſs of Silk, and a Whiteneſs, like that of Snow on the Mountains.

You will ſee all the Parts of this Work repreſented in the Cut; and the Makers of Paper, whoſe Mills, being built over Rivers, muſt of Courſe have ſtrong Lands in their Neighbourhood, may ſow ſo much Hemp round their Mill, as will conſtantly furniſh its Demand, and having by that Means all Materials, neceſſary to the Manufacture, brought cloſe to their Hands, they will not only carry on their Buſineſs with leſs Charge and Trouble, ſince they ſave all Occaſion of buying up old Rags in Places Remote, and their Carriage to the Mill, but the Paper, which they make, will require much leſs Labour, and Time, and yet for Strength, Fineneſs, and Colour exceed the Manufactures of *France*, *Holland*, or *Italy*.

ESSAY

BRITISH MUSEUM
27 JAN 37

ESSAY VII.

THE Woollen Manufacture is ſo generally advantagious to the People of *England*, that every Thing, which conduces to its Improvement, muſt be a National Benefit: That, which gives our Cloth its faireſt Ornament, is the Art of the Dyer: The Colours moſt in Uſe are but two, and the Chief of thoſe two, being *blue*, the Deſign of this Eſſay is to teach a New Method of managing *Woad*, which is the Ground Work of all our blue Dyes, ſo as not only to heighten the Strength of its Tincture, but alſo to give a conſiderable Addition to the Profit at preſent made by it.

The Means, we wou'd recommend for this Purpoſe, conſiſt in extracting and uſing the *Tincture* of the Plant, without any of its Groſſneſs, ſo that the Colour, it ſtrikes, will not only be fuller, and brighter, but the Quantity of two *Hundred Weight* only ſhall do the Work

of

of a *Tun*, whereby in the Article of *Carriage* alone, it is apparent, that Nine Parts in Ten will be ſav'd to the Dealer.

Effectually to explain this Improvement, 'twill be neceſſary, that we deſcribe the whole Art of the *Woad-maker*, as it is practis'd at preſent, and we will do it in as few Words, as poſſible.

Woad then is a Plant moſt proper to very rich Soils. Its Seed being ſown in the Spring, produces large, dusky, green Leaves, which are *cut down* twice, three times, or oftner, as the Goodneſs of the Seaſon ſerves to forward their Ripening.

The Cutters who know the exact Point of Time, by the Leaves changing Colour on their Edges, clear the Field with all poſſible Diſpatch, and carry the Leaves, as they gather them, to a Mill, where they grind them to a Maſh, which being made into Balls, they lay up to dry within large wooden Frames, which keeping off Rain, give the Air a free Paſſage between them.

When they have lain thus, ſo long, as till they are throughly dry, they grind them once more, and reduce them to Powder: This Powder they ſpread pretty thick upon broad Floors of Stone, and moiſten with Water, ſtill mixing, and ſhoveling it together, till it gains a Conſiſtance, not too dry, nor too moiſt, which they know by fix'd Rules in the Practice. They let it ſtand in the Heap, till it heats very much,

much, and then turn it again to prevent it from Damage, and give it the requiſite Coolneſs; And this they continue to repeat, till all inward Fermentations being over, it is *Cur'd*, as they call it, and made fit for the *Dyer*, at which time they barrel it up, or pack it in Bags. 'Tis a courſe, ſtringy Subſtance and appears to the Eye little better, than a black Kind of Mud, yet bears a conſiderable Price, and is one of the moſt profitable, and uſeful Commodities in the Kingdom.

The above deſcrib'd Proceſs is the Method now practis'd among us, but that, which we wou'd recommend to the Planter, is to manage his *Woad*, as the Indians make *Indigo*, which tho' every Body knows to be the richeſt *blue* Dye, is in its Original, no other than a green Plant, as *Woad* is, not naturally yielding a preferable Tincture, but manag'd by a Method more Skilful, and Comprehenſive.

Let therefore the Planter of *Woad*, inſtead of his Mills, provide nothing but Ciſterns, dug deep in the Earth, and made to hold Water, by lining and bottoming with double Rows of Brick, laid firm, and cemented, as well as cover'd over, with *Plaiſter* of *Paris*. The Number, and Size of theſe Ciſterns muſt bear a Proportion to the Quantity of Land, he applys to this Purpoſe; He may raiſe all theſe Ciſterns to a reaſonable Height above the Surface of the Ground, by Means of a Wall, and cover each by a Roof, ſupported upon four corner Poſts, to defend it from Rains, as is plainly repreſented in the Cut for this Eſſay.

It

It were alſo a Benefit, if to prevent the Expence of Horſes, or Waggons for Carriage, theſe Ciſterns were made, not all in one Place, but diſpos'd here and there in the Midſt of the *Woad Lands*; for by that Means, as the Gatherers, fill Baskets with the Leaves, they may preſently be carried on the Shoulders of Men to that Ciſtern belonging to the Field, they are at work in.

The Ciſtern, when the Woad is begun to be gather'd, muſt be half fill'd with Water, after which the Woad Leaves, as faſt as cut down, muſt be thrown in upon it, and mingled, and ſoak'd in the Water by the Stirring of long wooden Poles, till the Ciſtern is capable of holding no more.

Once in two or three Days, they muſt always remember to ſtir the whole Maſs, and the more they ſhall do ſo, the better: And if at any Time they think it too *ſtiff*, they may mingle more Water, and keep it liquid at their Pleaſure. In a Month, or two, ſometimes more, ſometimes leſs, the Leaves, by the piercing Effect of the Water, and conſtant Maceration, and ſtirring, will be reduc'd to a Subſtance like Mud, ſaving only the Fibres, or Stalks of the Plant; And the Time, when this happens, will be eaſily known, when no more whole Leaves, or Pieces of Leaves ſhall be ſeen in the Stirring, but a thick ſlimy Mud ſhall be ſettled at Bottom, which will riſe upon Motion, and diſcolour the Water.

They

They muſt then ſtir it ſoundly, and open certain Plugs in the Bottom, which ſtop up the Mouths of large Pipes, whoſe Ends in the Ciſtern are cover'd with ſtraining Cloths: Thro' theſe Pipes all the Water runs off, and carries with it the Tincture, leaving nothing behind, but the courſe, ſtalky Fibres, and a thick, uſeleſs Subſtance.

The Water, which is thus drawn off, either into proper Veſſels, or a ſmaller Ciſtern, plac'd below the other, for that Purpoſe, muſt ſtand a Day or two to ſettle, and being grown *Clear*, muſt again be drawn away, and ſuffer'd to run off, till nothing remains but a blue, muddy Settlement at Bottom: This muſt be put in broad, flat Boxes, or made into Rolls, or Cakes at the Election of the Workman, who muſt firſt take Care to oil his Fingers, to prevent its ſticking to them, after which it muſt be expos'd to the Sun, and being there dry'd hard, it will become a Subſtance much like *Indigo*, and go as far in *Dying*; neither is the Colour much *Inferior*, but if manag'd rightly, ſometimes *Preferable*.

This ſhall ſuffice at preſent, as to the Improvement of the Art of Dying: We ſhall hereafter, more at large, diſcourſe upon this Subject, and particularly teach a ready Way to make a Noble *Scarlet Dye* from the Red Roman *Beet Root*, and a *Blue* no way inferiour to the beſt *Lahore*, or richeſt *Indigo*, from *Rue*, ſuch as grows commonly in every Garden.

BRITISH MUSEUM
27
37
JAN

ESSAY VIII.

THE following Eſſay is extracted from a Letter, which has been ſent us by a Gentleman, who is ſo far a Member of our Society, as to contribute his Aſſiſtance from the Country, where he cultivates a large Eſtate of his own getting, and communicates to others ſuch Improvements, as he makes, with a generous Openneſs of Spirit, and a Freedom rarely to be met withall among us.

The Subject of the Letter is upon a new, and much more profitable Management of a *Dairy*, than is commonly known, or practis'd: It cannot but be uſeful to a World of People, and we publiſh it with that Intent. The firſt Part of the Letter we omit, as containing nothing but Directions for the Preparation of the Ground, and begin with his Deſcription of the Graſs, which he conceives moſt proper.

'Now there is, ſays he, a foreign Graſs 'much properer for *light* Lands than Clover; 'tis generally known by the Name of St. *Foyn*: 'But that, which I have ſeen in ſeveral Parts 'of *Berkſhire*, *Wiltſhire* *Somerſetſhire*, and ma-'ny other Counties, is a baſtard Sort, and 'much inferior to the true St. *Foyn*, which 'may, now we have Peace with *France*, be had, 'very reaſonably, from *Dunkirk*, or *Calais*, and 'will, without Queſtion, be imported in great 'Quantities, and ſold, in a ſhort Time, in the 'Seed Shops at *London*, and elſewhere.

'This Seed, being much larger than Clover, 'muſt be ſow'd in a much greater Quantity. 'Four Buſhels to an Acre will be better than 'Three, which is the leaſt you can venture to 'ſow; obſerve the Directions given for Clover, 'as to manuring, while the Turf is tender, and 'the Earth is frozen; but as to the Time of 'letting it grow, That may, if you pleaſe, be '*five Years*; for ſo long it will continue in its 'prime Perfection; and running into a large 'knotty Root, does ſo enrich the Ground it 'grows on, that after it has born St. *Foyn* five 'Years, it will afford three excellent Crops of 'what Corn you pleaſe; and ſo improve it ſelf 'by alternate Burthens of *Graſs*, and *Grain*, 'till it arrives at the utmoſt Perfection, which 'Land is capable of reaching.

'Nothing is ſo ſweet, nothing ſo innocent, 'nothing ſo nouriſhing, as this St. *Foyn*; but 'above all it is obſerv'd to encreaſe Milk in 'Quantity, and Quality, beyond any Graſs

'yet

'yet known in the whole World; And it is for 'this Reaſon, that I adviſe you to keep Cows 'upon it, and make your five Years Profit by a 'Dairy.

'But when I ſay a Dairy, imagine not that 'I mean ſuch a Dairy, as is commonly kept in '*England*. Wou'd you know what Kind of 'Dairy? I will haſten to inform you, and 'conclude my Letter with this Particular.

'The worſt Acre of an Hundred, which 'Quantity of Land is moſt ſuitable to this Pur-'poſe, improv'd by this Graſs, will very well 'maintain four Cows, from the firſt of *April* to 'the End of *November*; and afford beſides a 'ſufficient Store of Hay, to make good Part of 'their Subſiſtance, the four Winter Months fol-'lowing.

'You muſt buy then about four Hundred 'Milch Cows, but take Care, you chuſe them 'with Judgment. I have bought your largeſt 'Sort of *Runts*, from *Wales*, for leſs than 'Fifty Shillings a Cow, with a good 'Calf at her Side; which I always diſpos'd of, 'as ſoon as I cou'd. You will obſerve that I 'make too good an Uſe of the Milk, to afford 'the Calf his Share of it. I generally keep 'theſe Cows above Twelve Months; and then 'ſelling them, ſometimes for four Pound a 'Piece, I ſtock my ſelf with ſuch, as are new-'milch'd. I obſerve this Rule every Year, and 'the Trouble is rewarded ſufficiently, by the 'Advantage it brings me; for beſides the Profit 'I make, by ſelling dearer than I buy, I avoid

'the

'the Inconvenience of having any Thing to 'do with *Bulls*, and the Conſequences; ſo that 'I always preſerve my Cows in their *full Milk*, 'and find it no uncommon Thing for one of 'theſe *Welch* Cows to be milk'd twice a Day, 'and afford a Gallon and a Half at a Meal. 'Four Hundred of theſe Cows will coſt a Thou-'ſand Pound, and you will find, that coming 'from a *poor* Paſture to a *rich*, they will proſper, 'and encreaſe both in Milk, and Size.

'In Eight convenient Places about your 'Hundred Acres, let there be built Eight 'Thatch'd Sheds, a little riſing in the Middle, 'to carry off the Rain. The Height may be 'ten Foot, and the Breadth thirty. Each of 'theſe Sheds ſhou'd be a Hundred and twenty 'five Foot long; and under the higheſt Part, 'directly in the Middle, you muſt raiſe a ſlight 'Partition, lath'd and plaiſter'd, which ſerves 'to ſupport the Ridge of the Roof, while the 'two Sides are ſuſtain'd by ſquare, wooden 'Poſts, about eight Foot high, and plac'd at 'proper Diſtances.

'On either Side of the Partition Wall, let 'there be fix'd a Kind of Rack, like thoſe in 'Stables, which is to run the whole Length of 'the Shed, and muſt be plac'd as high, as a 'Cow can reach her Fodder from: The Shed 'muſt, next, be divided into *Stalls*, like thoſe 'for Stone-Horſes, and each Stall will be about 'five Foot broad, The Length of theſe *Stalls* 'ſhou'd be exactly fitted to That of a Cow, 'that a croſs Bar, being plac'd at the outward 'End, may keep the Beaſts from running back-

'ward;

'ward. Thus every Shed will hold fifty Cows, five and twenty on each Side of the Partition.

'To every one of theſe Sheds you muſt appoint a Man, whoſe Buſineſs it will be to clean the Place, and carry off their Dung; as alſo to mow the St. *Foyn*, every Day, and give it to the Cows in the Rack beforemention'd. This Man, beginning at one End of his Proportion of Ground, and going gradually on, to the other; the firſt Place will always be fit to mow again, by that Time he has gone thro' his whole Diviſion. Your Cows are thus fed at Diſcretion, with neither too much nor too little: They are not peſter'd with the ſcorching Heats, nor troubled with the ſtinging Fly, which in open Paſtures, often makes them whisk about, and trample down more Graſs than they eat.

'At each End of every Shed, you muſt build a ſlight Room of Brick, thirty Foot ſquare, and ten Foot high, which is to be divided, the Croſs-way of your Shed, into two Partitions, each fifteen Foot broad, and thirty Foot long: That, which joins to the Cow-Houſe, muſt be pav'd with Tiles, and is to ſerve for a Dairy. The other muſt be floor'd, and window'd, and is to be a Lodging-Room for Dairy Maids.

'Every Shed will require five Maids, that is, to every ten Cows one Dairy Maid: Fewer might ſerve, but 'tis better to exceed than fall ſhort in this Particular. Thus, each Dairy will have two or three Maids belonging to it, whoſe Lodging will be the Room adjoining, and whoſe

'Care

'Care is to extend into the Shed, on both Sides 'the Partition, to the five and twenty Cows, 'which are neareſt to their Station.

'All along both Sides of the Partition, at 'about a Foot above the Ground, let there be 'fix'd, cloſe to the Wall, a ſtrong Pipe of *Lead*, 'a little leſs than an Inch Diameter, both which 'Pipes being ſomewhat rais'd exactly in the 'Middle of the Shed, muſt have a gentle and 'almoſt inviſible Deſcent, from That Riſing 'to the Dairies; through the Walls of which, 'their neather Ends are to be brought, and there 'wrought into one another, that whatever de-'ſcends thro' 'em into either of the Dairies, may 'have Iſſue but at one Mouth.

'This Mouth of the Pipes muſt be made very 'ſmall, and neatly fitted into the hollow End 'of a ſtrong wooden Axle-Tree; ſo that, while 'the Axle-Tree is turning ſwiftly round the 'Mouth of the Pipe, it may by no Means ſtrain 'it by the Motion, but receive into its own 'Hollow, the Milk, which deſcends thro' the 'Leaden Pipes, without ſpilling any. This 'Axle-Tree is only hollow for three Foot of its 'Length, and paſſes ſo far thro' a Wheel, or 'Veſſel, like a Barrel, only much larger in its 'Circumference. The Axle-Tree, which this 'Veſſel is to turn upon, is bor'd very full of 'round Holes, through which it delivers the 'Milk, into the Veſſel, as faſt as it receives it 'from the Pipe. The Veſſel muſt be capable of 'containing at leaſt three times the Quantity 'of Milk, which it is deſign'd to receive; and 'there muſt be ſix Wings, or thin Pieces of

'Wood,

'Wood, glew'd on, Edgeways, to the hollow 'Axle-Tree, whoſe Length and Breadth muſt 'be ſo contriv'd, as to leave a free Space of ſix 'Inches at either End of the Axle-Tree; and a 'Foot between their Edges, Lengthways, and the 'ſmooth Inſide of the Veſſel; In the moſt con-'venient Part of which, muſt be contriv'd a 'Door, to open, and ſhut down, upon Occaſion 'as cloſely, as if there was none. This Door 'will perform its Work very neatly, if you 'line the Inſide, and Edges, with the ſame kind 'of Cloth, which is commonly us'd in the 'Preſſing of Cheeſes.

'The other ſolid End of the Axle-Tree muſt 'extend it ſelf to about five Foot longer, and 'the whole Length may be ſupported by ſquare, 'wooden Poſts, and turn in their Tops, which 'are to be made hollow, and kept greas'd for 'that Purpoſe. This End of the Axle is to be 'faſten'd into a Wheel, exactly like thoſe, which 'are us'd, in many Places, for the roaſting 'Meat. The Diameter of this laſt Wheel muſt 'be within ſix Inches of the Height of the 'Dairy; and two, or three large Dogs, being 'put into it, at a Time, will *Turn* it with ex-'traordinary Swiftneſs. The Dogs are eaſily 'taught, and will, at laſt, take Delight in the 'Exercise. I have brought up a large *Buck* to 'the Practice of this Labour; and it is wonder-'ful to ſee the Force, with which he runs round, 'an Hour, or two together, and turns a Wheel of 'ten Foot Diameter: But You muſt make your 'Wheel as light, as it can poſſibly hold toge-'ther.

'I have but one Thing more to ſay, and I 'finiſh this Direction. Pretty near that Side 'of every Stall in your Shed, to which the Maid 'muſt come to milk the Cow, that belongs to 'it, let a Hole, as ſmall, as will ſerve the Oc-'caſion, be contriv'd by your *Plumber*, in the 'upper Part of the Leaden Pipe, to ſhut, and 'open with a little Skrew; which Skrew, for 'Fear of loſing it, may be faſten'd by a little 'Iron Chain to the Body of the Pipe.

'I have endeavour'd, in the Deſcription of all 'this, to make my Meaning as plain, as poſſi-'ble, and have added the Repreſentation of the 'whole in a Draught; If you do not compre-'hend it at firſt, you *will*, after two, or three 'times reading, and conſidering it. I wou'd 'have no Man imagine, that I propoſe a Thing 'too troubleſome: For one great Benefit in the 'Practice, I am here recommending, is, that it 'will ſave above half the Labour, which is at 'preſent abſolutely neceſſary, in every Dairy in 'the Kingdom.

'The milking Pails, which muſt be us'd here, 'are very broad, and ſhallow in Shape; not 'much unlike a Baker's *Sieve*. They muſt ſtand 'upon three Legs, of a little more than a Foot 'high, and from the Bottom of one Part of the 'Rim, muſt come a long *Tin* Pipe, ſomewhat 'reſembling the Neck of a *Still*, the Noſe of 'which is to be put into one of the Holes in the 'Leaden Pipe; And the Pail, at the ſame Time, 'ſtanding under the Cow, the Milk, as faſt as 'it deſcends thro' the *Tin* Pipe into the *Leaden* 'One, is thence convey'd into the Veſſel, which 'I juſt now deſcrib'd in the Dairy. 'Ob-

'Obſerve that, to prevent the Hairs, or other 'Impurities from deſcending with the Milk, 'the Mouth of the Tin Pipe, which opens into 'the Pail, is to be cover'd with a ſtraining Cloth. 'Thus, the Maids, removing from one Stall to 'another, diſpatch their Work neatly, and muſt 'remember to ſkrew up every Hole before they 'leave it.

'Morning, and Evening, before they begin 'to milk, They muſt put their Dogs into the 'great Wheel, by whoſe Motion, the Veſſel, 'which I call a *Churning Mill*, being turn'd 'ſwiftly round, receives the Milk, yet warm, 'through the little Holes in the hollow Axle 'Tree; and by the Means of thoſe ſix Wings, 'I mention'd, it is agitated with ſo great a 'Violence, that there is not only a much larger 'Quantity of Butter produc'd this Way, than 'by the other Method of ſetting it to Cream, 'but it is in every Degree, ſo much beyond it, 'even in Taſte, and Colour, that the difference 'is incredible: And what is yet a more conſi-'derable Advantage, The *Cheeſes*, which you 'make of the Butter-milk, may be reckon'd 'amongſt the beſt, and richeſt Kinds in *England*.

'When the Dairy Maids return from Milking, 'by that Time they have waſh'd their Pails, 'and taken a little Reſt, they have Nothing 'to do, but open the Door of the Mill, and ga-'ther the Butter, which they will find, in a 'huge Heap, ready churn'd to their Hands; 'After which, letting out the Remainder into a 'Ciſtern, which ſhou'd be near, they may pro-'ceed to make Cheeſe in the very ſame Manner,

'as they wou'd in the common Practice of their 'County. But the Dogs muſt, yet a little lon-'ger, continue in the Wheel.

'You will wonder what Buſineſs they have in 'the Wheel, when the Veſſel is empty. Your 'Maids muſt have a good Quantity of hot Wa-'ter juſt now in Readineſs, the greateſt Part of 'which muſt be pour'd into the Veſſel, 'and the Door made faſt upon it; The Dogs 'may then be permitted to renew their Labour 'for half a Quarter of an Hour, in which Time 'the Veſſel will be compleatly waſh'd, and 'ſcalded, and then the Water being let out, the 'Door muſt be kept open till next Milking Time.

'The Leaden Pipes are kept ſweet by the 'ſame Means; for, in that middle Part, where 'each Pipe riſes higheſt, is to be a larger Hole 'than any of the other, into which a ſhallow, 'broad Funnel, being put, a convenient Quanti-'ty of ſcalding Water muſt be pour'd in, which 'runs thro' the Pipe into the *Churning Mill*, and 'and carries away all the Relicks of the Milk, 'as it paſſes along.

'It wou'd be a needleſs Labour, ſhou'd I go 'about to compute the particular Charges of 'ſuch a Dairy. Every Reader will be able enough 'to do that for himſelf, and conſequently judge 'of a Greater, or Smaller, in Proportion. I only 'tell you what is a moſt certain Truth, that I 'never had a Cow, which brought me ſo little 'Profit, as Ten Pound a Year; and yet at ſuch a 'Computation only, the yearly Income of your 'Hundred Acres, thus employ'd, will amount to 'four Thouſand Pounds. Thus

Thus far the Letter of our Correſpondent. We will cloſe this Eſſay with the Sentiments of our famous Mr. *Cowley* on this Subject, which may ſerve to recommend a little more to our Eſteem an Art, which, tho' moſt uſeful, is at the ſame Time the moſt neglected.

The *firſt* Wiſh of *Virgil* was, ſays Mr. *Cowley*, to be a good *Philoſopher*. The *ſecond* a good *Huſbandman*; and God dealt with him juſt as he did with *Solomon*: Becauſe he pray'd for Wiſdom in the firſt Place, he added all Things, which were to be deſir'd; he made him one of the beſt Philoſophers, and *the Beſt* Husbandman; and to adorn and communicate both theſe Faculties, the beſt *Poet*: He made him beſides all this, a *Rich* Man, and a Man who deſir'd to be *no richer*. To be a Husbandman is but a Retreat *from* the World, as it is *Man's*, *into* the World as it is *God's*. Husbandry is, as *Columella* calls it---The neareſt Neighbour, and without Doubt, the next in Kindred to Philoſophy. It does certainly comprehend more Parts of Philoſophy, than any one Profeſſion, Art, or Science in the World beſides; and therefore *Cicero* ſays, The Pleaſures of *This* Life come very near to thoſe of a Philoſophers. There is no other Sort of Life, that affords ſo many Branches of Praiſe to a Panegyriſt; the *Utility* of it to a Man's ſelf; the *Uſefulneſs*, or rather the *Neceſſity* of it to all the Reſt of Mankind; the *Innocence*; the *Pleaſure*; the *Antiquity*; the *Dignity*; the *Lucre* of it is not now ſo great in our Nation as ariſes from the Merchandiſe, and Trade of the City. We have no Men now fetcht from the Plough to be made *Lords*, as they were in *Rome*, to be made *Conſuls*, and *Dictators*: The Reaſon of which

is

is from an evil Cuſtom amongſt us, that no Men put their Children to be bred up *Apprentices* in Husbandry, as in other Trades; but ſuch who are ſo poor, that when they come to be Men, they have not wherwithall to ſet up in it; and ſo can only farm ſome ſmall Parcel of Ground, whoſe Rent devours all, but the bare Subſiſtance of the Tenant; whilſt they, who are Proprietors of the Land, are either too proud, or for want of Education, too ignorant to improve it; tho' the Means of doing it be as eaſy, and certain in This, as in any other Tract of Humane Commerce. If there were always two or three Thouſand Youths, for ſeven, or eight Years bound to this Profeſſion, that they might learn the whole Art of it, and afterwards be enabled by a moderate Stock to be Maſters in it, I cannot doubt, but that we ſhould ſee as many *Aldermens* Eſtates made in the Country, as now we do out of all Kinds of Merchandiſing in the City. *There* are as many Ways to be rich, and, which is better, there is no *Poſſibility* to be poor, without ſuch Negligence, as can neither have Excuſe, nor Pity.

As for the *Neceſſity* of this Art it is evident enough, ſince *This* can live without any other; and no other without *This*. Many Nations *have* liv'd, and ſome *do* ſtill, without any but This; and almoſt all others are beholding to This for moſt of their Materials.

The *Innocence* is the next Thing, for which I commend it; and if Husbandmen preſerve not *That*, They are much to blame, for no Men are ſo free from the Temptations of Iniquity. *They* live

live upon an Eſtate, which is given them, by their Mother: *Others* upon an Eſtate, which is cheated from their Brethren. *They* live by what they can get by their Induſtry from the Earth; *Others* by what they can catch by Craft from Men. *They* live like Sheep, and Kine, by the Allowances of Nature; *Others* like Wolves, and Foxes, by the Acquiſitions of Rapine. We are *here* among the vaſt, and noble Scenes of Nature: We are *there* among the pitiful Shifts of Policy. We walk *here* in the light, and open Ways of the Divine Bounty: We are groping *there* in the dark, and confounding Labyrinths of Humane Malice. Our Sences are *here* feaſted with the clear, and genuine Taſte of their Objects, which are all ſophiſticated *there*, and overwhelm'd with their Contraries. *Here* Pleaſure looks, like a conſtant, beautiful, and modeſt *Wife*: It is *there* a fickle, impudent, and painted *Harlot*. *Here* is harmleſs, and cheap Plenty; *There* a guilty, and expenſive Luxury.

The *Antiquity* of this Art is certainly not to be conteſted by any Other. The Three firſt Men in the World were a *Gardiner*, a *Plowman*, and a *Grazier*. It is for this Reaſon, I ſuppoſe, that *Eccleſiaſticus* forbids us to hate Husbandry: *Becauſe*, ſays he, *The moſt High has created it*. We were all *born* to this Art, and taught by Nature to nouriſh our Bodies out of the ſame Earth, they are made of; and to which, at laſt, they muſt return, and pay for their Subſiſtance.

Theſe Conſiderations make me fall into the Wonder, and Complaint of *Columella*; How it ſhou'd come to paſs, that all Arts, or Sciences, *Metaphyſick*,

Metaphyſick, *Phyſick*, *Morality*, *Mathematicks*, *Logick*, *Rhetorick*; Nay even *Vaulting*, *Fencing*, *Dancing*, *Cooking*, *Dreſſing*, *Carving*, and ſuch like *Vanities*, ſhou'd all have Publick Schools, and Maſters: And yet that we ſhou'd never ſee, or hear of any Man, who took upon him, to profeſs an Art ſo Virtuous, ſo Profitable, ſo Honourable, and ſo Neceſſary! Who is there among our Gentry, that does not entertain a *Dancing Maſter* for his Children, as ſoon as they are able to walk? But did ever any Father provide a Tutor, to inſtruct his Son betimes in the Nature, and Improvements of that Eſtate, which he intends to leave him? *That* is at leaſt a Superfluity; and *This* a Defect in our Manner of Education: And therefore I cou'd wiſh, that one College in each Univerſity were erected, and appropriated to *this* Study, as well as there are to *Medicine* and the *Civil Law*.

Almoſt all the Poets, except Thoſe, who were not able to eat Bread without the Bounty of Great Men, that is, without what they cou'd get by flattering them, have not only withdrawn themſelves from the Great World into the Happineſs of a retir'd Life, but have commended, and adorn'd Nothing ſo much by their Everliving Poems. *Heſiod* was the firſt, or ſecond Poet in the World, that remains yet extant, and *He* is the firſt Writer too of the Art of Husbandry.

Mr. Cowley adds a great Deal more, which we forbear to inſert, and only obſerve, that as no Man knew Truth more clearly than that Author, ſo no Man cou'd poſſibly have deliver'd it more gracefully.

F I N I S.

BRITISH MUSEUM 27 JAN 37